NiceZyme View of ENZYME: EC 3.5.1.28

Official Name

N-acetylmuramoyl-L-alanine amidase.

Reaction catalysed

Hydrolyzes the link between N-acetylmuramoyl residues and L-amino acid residues in certain cell-wall glycopeptides

Comment(s)

Formerly EC 3.4.12.5, EC 3.4.17.7 and EC 3.4.19.10.

Cross-references

PROSITE	PDOC00737
BRENDA	3.5.1.28
PUMA2	3.5.1.28
PRIAM enzyme-specific profiles	3.5.1.28
Kyoto University LIGAND chemical database	3.5.1.28
IUBMB Enzyme Nomenclature	3.5.1.28
IntEnz	3.5.1.28
MEDLINE	Find literature relating to 3.5.1.28
UniProtKB/Swiss-Prot	Q38653, ALYS_BPA51; O03979, ALYS_BPDP1; P32762, ALYS_BPHB3; Q38135, ALYS_BPR1T; P24556, ALYS_STAAU; P06653, ALYS_STRPN; P36548, AMIA_ECOLI; P33772, AMIA_SALTY; P57638, AMIB_BUCAI; Q8K908, AMIB_BUCAP; Q89A33, AMIB_BUCBP; P26365, AMIB_ECOLI; P44493, AMIB_HAEIN; P26366, AMIB_SALTY; P63884, AMIC_ECOL6; P63883, AMIC_ECOLI; P52081, ATL_STAAU; O31982, BLYA_BACSU; P81717, CWHA_ACHLY; P14892, CWLA_BACSP; P24808, CWLA_BACSU; Q02114, CWLB_BACSU; Q06320, CWLC_BACSU; P50864, CWLD_BACSU; P54450, CWLH_BACSU; P36550, CWLL_BACLI; P37134, CWLM_BACLI; Q99125, CWLX_BACLI; P20331, NAAA_BPT3; P00806, NAAA_BPT7; Q8INK6, PGPLB_DROME; Q96PD5, PGRP2_HUMAN; Q8VCS0, PGRP2_MOUSE; Q866Y3, PGRP2_PIG; Q70PY2, PGSB1_DROME; Q9VV96, PGSB2_DROME; Q70PW6, PGSB2_DROSI; Q9V3B7, PGSC1_DROME; Q70PU2, PGSC1_DROSI; Q9V4X2, PGSC2_DROME; Q70PU1, PGSC2_DROSI; P39800, XLYA_BACSU; O34391, XLYB_BACSU; P75820, YBJR_ECOLI;

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All UniProtKB/Swiss-Prot entries referenced in this entry, with possibility to download in different formats, align etc.

KEGG

ENZYME: 3.5.1.28

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Entry	EC 3.5.1.28 Enzyme
Name	N-acetylmuramoyl-L-alanine amidase; acetylmuramyl-L-alanine amidase; N-acetylmuramyl-L-alanine amidase; N-acylmuramyl-L-alanine amidase; acetylmuramoyl-alanine amidase; N-acetylmuramic acid L-alanine amidase; acetylmuramyl-alanine amidase; N-acetylmuramylalanine amidase; murein hydrolase; N-acetylmuramoyl-L-alanine amidase type I; N-acetylmuramoyl-L-alanine amidase type II
Class	Hydrolases Acting on carbon-nitrogen bonds, other than peptide bonds In linear amides
Sysname	peptidoglycan amidohydrolase
Reaction	Hydrolyses the link between N-acetylmuramoyl residues and L-amino acid residues in certain cell-wall glycopeptides [RN:R04112]
Structures	
Reference	1 [PMID:5777325] Ghuysen JM, Dierickx L, Coyette J, Leyh-Bouille M, Guinand M, Campbell JN. An improved technique for the preparation of Streptomyces peptidases and N-acetylmuramyl-l-alanine amidase active on bacterial wall peptidoglycans. Biochemistry. 8 (1969) 213-22. 2 Herbold, D.R. and Glaser, L. Bacillus subtilis N-acetylmuramic acid

L-alanine amidase. J. Biol. Chem. 250 (1975) 1676-1682.

3 [PMID:6126517]

Ward JB, Curtis CA, Taylor C, Buxton RS.

Purification and characterization of two phage PBSX-induced lytic enzymes of Bacillus subtilis 168: an N-acetylmuramoyl-L-alanine amidase and an N-acetylmuramidase.

J. Gen. Microbiol. 128 (1982) 1171-8.

Other DBs IUBMB Enzyme Nomenclature: 3.5.1.28

ExPASy - ENZYME nomenclature database: 3.5.1.28

ERGO genome analysis and discovery system: 3.5.1.28

BRENDA, the Enzyme Database: 3.5.1.28

CAS: 9013-25-6

LinkDB All DBs